

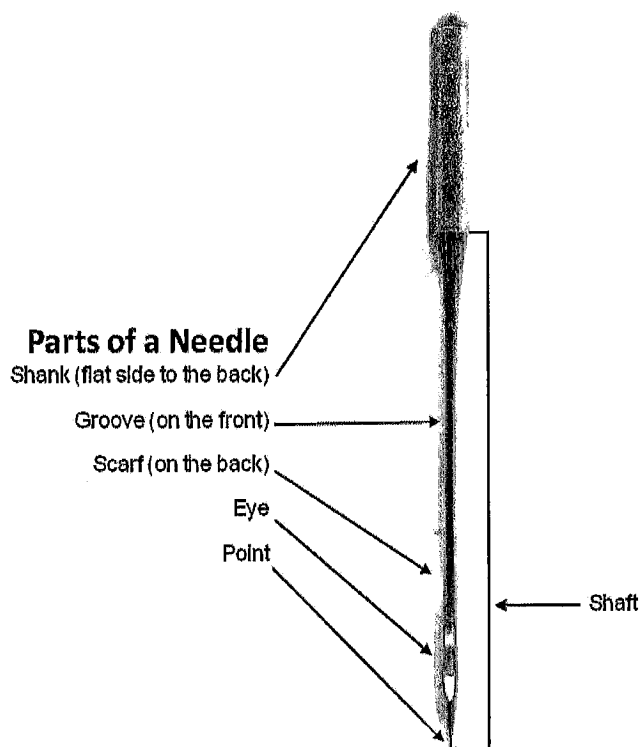
Serger Needles

BERNINA sergers use the same type of needle as most sewing machines: 130/705H. *Note: An exception to this is the JLx2 needles that can help perfect the cover stitch on models 1300 MDC and 009DCC.*

Use size 80/12 or 90/14 needle in your serger; larger needles can interfere with looper movement and cause damage; smaller needles may not form the stitches correctly.

Always make sure needles are fully inserted as high as possible, with the flat side to the back.

When using both the right needle and the left needle, the needles will not be even when they are fully inserted. The left needle will be slightly higher than the right one.



Serger Thread

Serger threads are usually polyester and are finer (lighter weight) than many sewing machine threads to avoid thread build-up and excessive bulk in seams. It is important that serger thread is smooth without variations in diameter as it needs to feed smoothly through many thread guides for good stitch formation. You also want a good-quality thread – such as Mettler Metrocor – that is not “fuzzy” and does not leave excessive lint in the lower part of your overlock machine. Serger threads are sold on cones for economy and convenience; regular spools of thread may be used but will not last very long when forming serger stitches. Along with serger thread, there are applications that call for specialty and decorative threads. Listed below are some of these threads commonly used in the serger:

Texturized Nylon Thread – such as YLI Woolly Nylon and Mettler Metroflock – a very elastic thread with excellent coverage; perfect for rolled edges and knit seams. Available in solid and variegated colors, and metallics.

Polyester Topstitching Thread – such as YLI Jeans Stitch & Mettler Cordonnet – this heavy thread is used for decorative stitching (flatlocked seams and overcast edges). Also nice for cover and chain stitching. Available in solid and variegated colors.

Rayon Decorative Threads – such as YLI Pearl Crown Rayon & YLI Designer 6 – shiny threads for decorative applications. Pearl Crown Rayon is twisted, while Designer 6 is untwisted. Available in solid and variegated colors.

Metallic Decorative Threads – such as YLI Candlelight – adds a bit of glitz to seams and edgings.

Decorative Sewing Threads – sewing machine threads can also be used in the serger, and are particularly effective when several are used together as one thread.

Needle Chart

Never use a needle bigger than size 90/14 in your serger;
larger needles can interfere with looper movement and cause damage.

Ball Point	70-90	Has a rounded point. 70 for lingerie, nylon, jersey; 80 for T-shirt; 90 for sweatshirt fleece.
Stretch	70-90	A stretch needle has a more rounded point and a blue anti-cling coating which helps to prevent skipped stitches in knits and elastic. Sometimes used on Ultrasuede [®] , vinyl, and plastic.
Universal	60-90	A compromise between a sharp and a ballpoint needle; can be used on both wovens and knits. 60 – very fine batiste 70 – broadcloth 80 – trigger and gabardine 90 – denim and twill
Jeans	70-90	Has a sharp point and a shaft that is less prone to flex. The sharpness of the needles makes it better for use on denim and woven fabrics where a clean stitch is desired.
Microtex Sharp (Schmetz)	60-90	A sharp point with a thin shaft. 60-90 corresponds to the weight of the fabric; as the fabric gets heavier or denser, the number is higher. Specially designed for microfiber fabrics.
Microfiber (Lammertz) Quilting	assort'd (75 & 90)	The thin, tapered point of this needle causes less damage to fabric when seaming and cross seaming.
Topstitch	80-90	A sharp point with a large eye and deep groove. Use with heavier fabrics – the large groove cradles heavy threads.
Embroidery (Schmetz) Metafil (Lammertz)	75-90	Sharp needle with a large eye and groove; also has a coating and a larger scarf. For use with embroidery thread – prevents shredding of rayon or metallic threads. Two threads may be used through the eye of an 80 or 90 needle.
Leather	80-90	Point is a sharp cutting wedge. <i>Used for leather only.</i> Not for vinyl or simulated leathers.

Adjusting Tensions

Fabric 6 pieces firm fabric, each 3" x 6"
..... 1 piece of lightweight cotton, 3" x 4"
Needle 80/12 Universal
Thread 4 cones of serger thread
..... (yellow, red, green, blue)
Presser Foot standard
Stitch 4-thread overlock

Notes

#1

Lower Looper - Increased Tension

Thread the serger for a 4-thread overlock stitch using thread colors to match the color-coded threading path on the serger.

Fold each piece of the firm fabric to 1½" x 4" and set aside.

Locate the thread tension levers on the front of the serger. From left to right, these levers adjust tension for the Left Needle, Right Needle, Upper Looper, and the Lower Looper.

Adjust the lower looper thread tension lever to 7 to increase the tension on the looper thread.

Place the first piece of folded fabric under the presser foot with the fold to the right and serge to the end of the fabric, cutting off the fold.

Examine the sample. The looper threads do not lock on the edge of the fabric. The upper looper thread is pulled tightly to the back of the stitch. The left needle thread may be pulled to the back of the stitch.

Trim, label, and mount the sample.

#2

Lower Looper - Decreased Tension

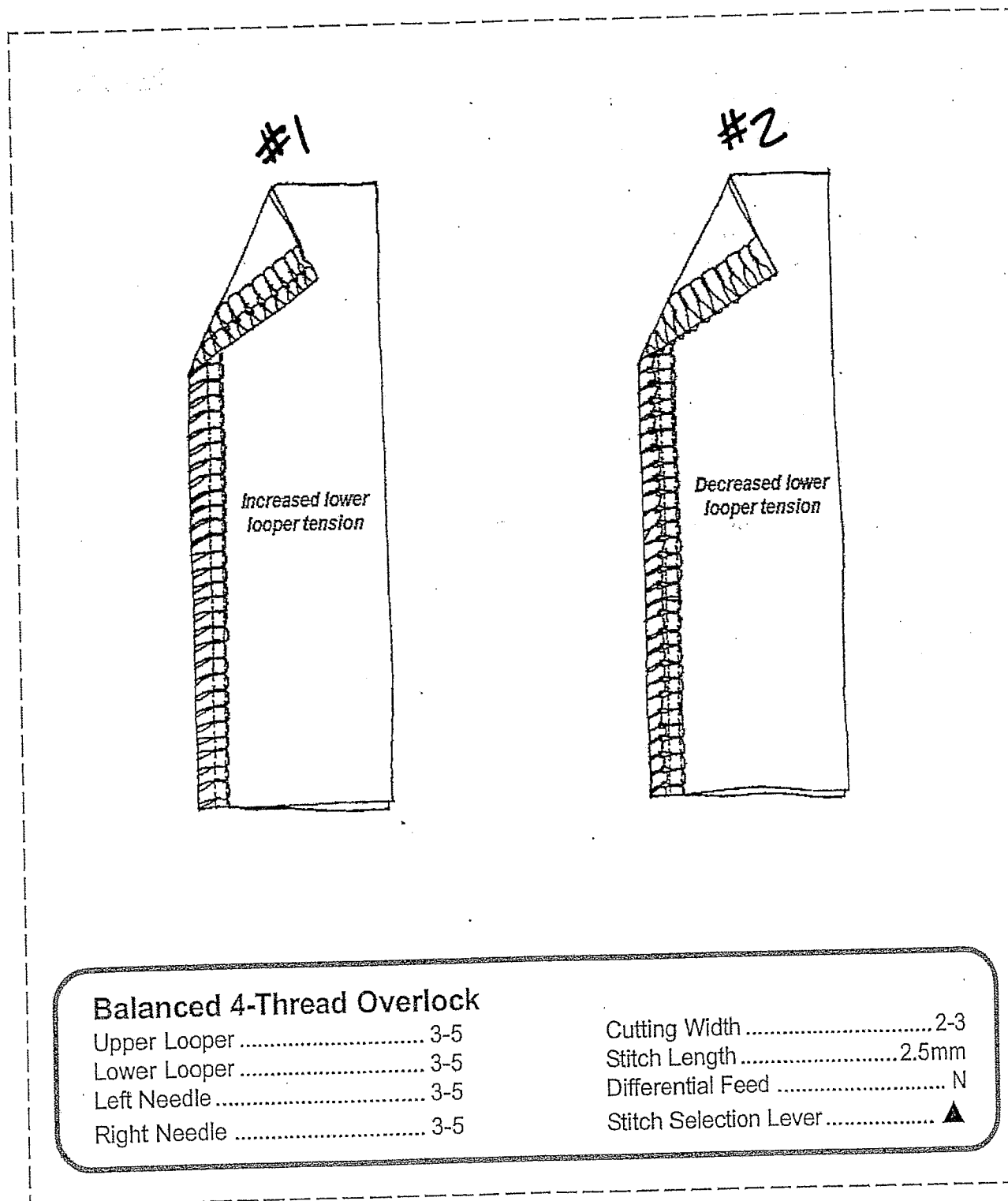
Change the lower looper thread tension lever to 2 to decrease the tension on the looper thread.

Serge the second piece of folded fabric, cutting off the fold.

Examine the sample. The looper threads do not lock on the edge of the fabric. The lower looper thread is visible on the face of the fabric. The looper threads are very loose.

Label, trim, and mount the sample. Return the thread tension levers to normal.

Adjusting Tensions Samples



Adjusting Tensions, continued

#3

Upper Looper - Increased Tension

Adjust the upper looper thread tension lever to 7 to increase the tension on the looper thread.

Serge the third piece of folded fabric, cutting off the fold.

Examine the sample. The looper threads do not lock on the edge of the fabric. The lower looper thread is pulled tightly to the front of the stitch.

Label, trim, and mount the sample.

#4

Upper Looper - Decreased Tension

Change the upper looper thread tension lever to 2 to decrease the tension on the looper thread.

Serge the fourth piece of folded fabric, cutting off the fold.

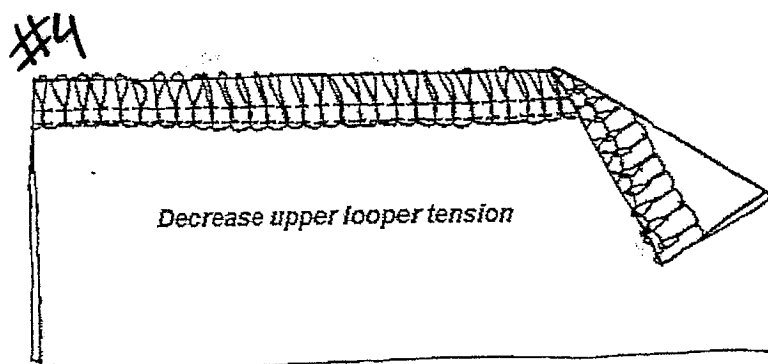
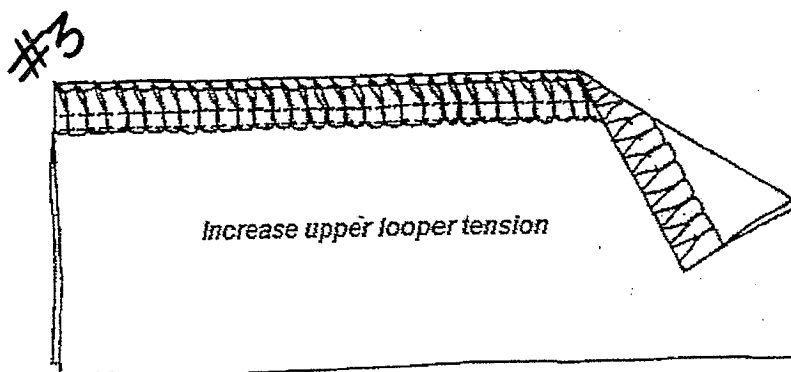
Examine the sample. The looper threads do not lock on the edge of the fabric. The upper looper thread is visible on the back of the fabric. The looper threads are very loose.

Label, trim, and mount the sample.

Return the thread tension levers to normal.

Notes

Adjusting Tensions Samples



Balanced 4-Thread Overlock

Upper Looper 3-5
Lower Looper 3-5
Left Needle 3-5
Right Needle 3-5

Cutting Width 2-3
Stitch Length 2.5mm
Differential Feed N
Stitch Selection Lever ▲

Adjusting Tensions, continued

#5

Right Needle - Decreased Tension

Adjust the right needle thread tension lever to 2 (down) to decrease the tension on the needle thread.

Serge the fifth piece of folded fabric, cutting off the fold.

Examine the sample. The needle thread forms large loops on the back of the fabric.

Label, trim, and mount the sample.

#6

Left Needle - Decreased Tension

Adjust the left needle thread tension lever to 2 to decrease the tension on the needle thread.

Serge the sixth piece of folded fabric, cutting off the fold.

Examine the sample. The needle thread forms large loops on the back of the fabric.

Label, trim, and mount the sample.

#7

Both Needles - Increased Tension

Adjust both the left and right needle thread tension levers to 7 to increase the tension on the needle threads.

Fold the piece of lightweight woven cotton fabric to 1½" x 4".

Serge the folded fabric, cutting off the fold.

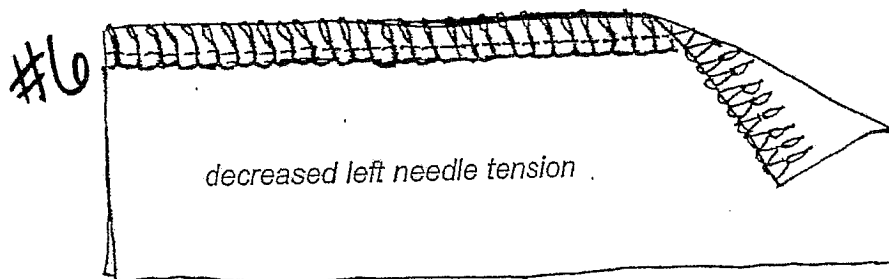
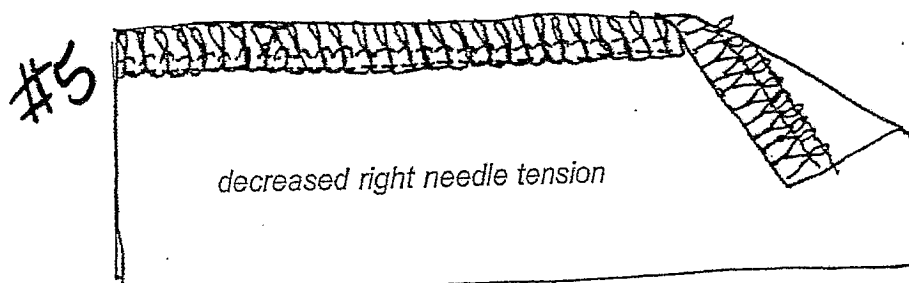
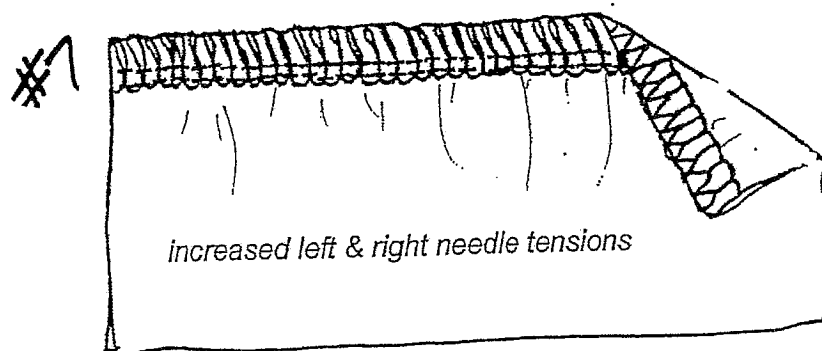
Examine the sample. The lower looper thread is pulled to the front of the sample and the stitch is puckering the fabric.

Label, trim, and mount the sample.

Return both needle thread tension levers to normal.

Notes

Adjusting Tensions Samples



Balanced 4-Thread Overlock

Upper Looper 3-5
Lower Looper 3-5
Left Needle 3-5
Right Needle 3-5

Cutting Width 2-3
Stitch Length 2.5mm
Differential Feed N
Stitch Selection Lever ▲

My **BERNINA** Differential Feed: Stretchy Fabrics

Serger Workbook



Fabric: Knit ribbing, three pieces, 3" x 6" each
Needle: 80/12 Universal
Thread: 4 cones of serger thread (blue, red, green, yellow)
Presser Foot: Standard
Stitch: 4-thread overlock

Thread the serger for a 4-thread overlock stitch using thread colors to match the color-coded threading path on the serger. Adjust all thread tension settings as indicated below.

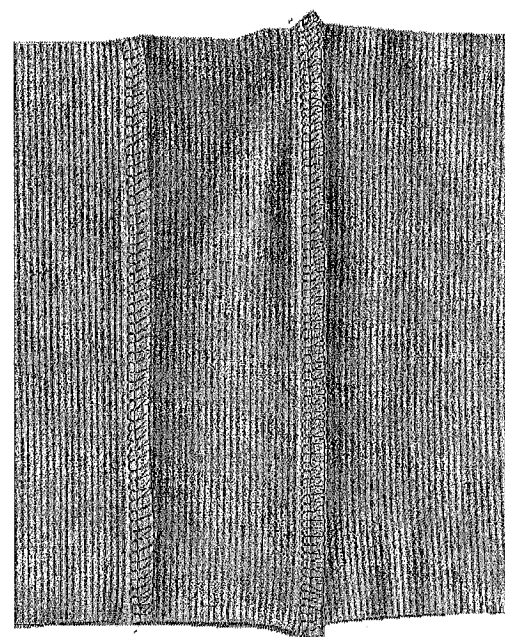
Set the cutting width as needed and set the stitch length to 2.5mm.

With differential set at N, serge two of the ribbing pieces together along one 6" edge. If the fabric is stretchy enough you will have a wavy edge.

Adjust the differential to 2.0. Stitch along the 6" side, serging the remaining ribbing to the other side of the piece, trimming slightly. With differential at a higher setting, the wavy edge should be eliminated.

Mark the differential settings on the fabric sample.

Return the differential feed setting to N (normal).



2mm

N

Suggested Settings

Upper Looper	3-5
Lower Looper	3-5
Left Needle	3-5
Right Needle	3-5
Stitch Length	2.5
Cutting Width	2-3
Differential Feed	varies



Fabric: Lightweight, soft fabric, 4" x 6"
Needle: 80/12 Universal
Thread: 4 cones of serger thread (blue, red, green, yellow)
Presser Foot: Standard
Stitch: 4-thread overlock

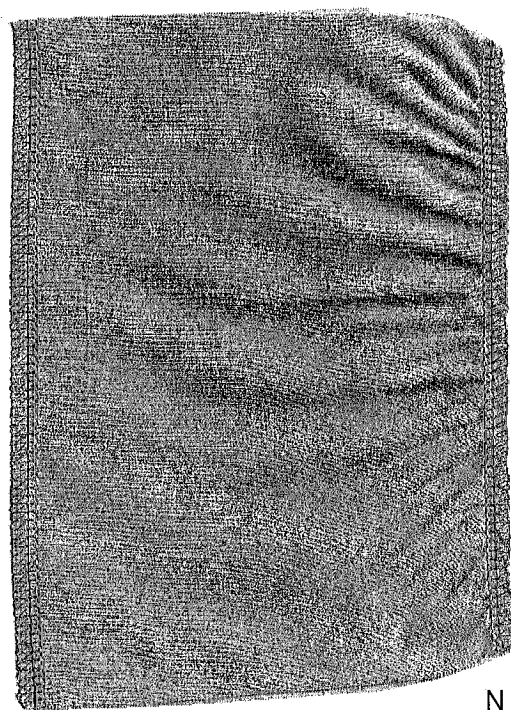
Thread the serger for a 4-thread overlock stitch using thread colors to match the color-coded threading path on the serger. Adjust all thread tension settings as indicated below.

With differential set at N, serge on one 6" edge. If fabric is lightweight enough you will have a puckered edge.

Adjust the differential to 0.7. Serge along the other 6" edge, trimming slightly. With a low differential setting, the puckered edge should be eliminated.

Mark the differential settings on the fabric sample.

Return the differential feed setting to N (normal).



N

0.7mm

Suggested Settings

Upper Looper	3-5
Lower Looper	3-5
Left Needle	3-5
Right Needle	3-5
Stitch Length	2-5
Cutting Width	2-3
Differential Feed	varies



Fabric: Firm fabric, 6" x 6"
Needle: 80/12 Universal
Thread: 4 cones of serger thread (blue, red, green, yellow)
Presser Foot: Standard
Stitch: 4-thread overlock

Thread the serger for a 4-thread overlock stitch using thread colors to match the color-coded threading path on the serger. Adjust all thread tension settings as indicated below.

Fold fabric in half to 3" x "6" and place under the presser foot.

Take 2-3 stitches on the fabric. Lower the needles into the fabric. Raise the presser foot and with your left hand gently pull the thread chain around the needles to the knife.

Lower the presser foot and continue serging (cutting off the excess thread chain) until you are one stitch off the end of the fabric.

Locate the Stitch Selection lever on the right side of the cloth plate; pull it towards you, releasing the thread chain from the stitch tongue.

Raise the presser foot and carefully flip the fabric over so that the lower looper side of the previously serged seam will be overstitched.

Place the fabric under the presser foot so that the first stitch will enter the fabric when you begin stitching.

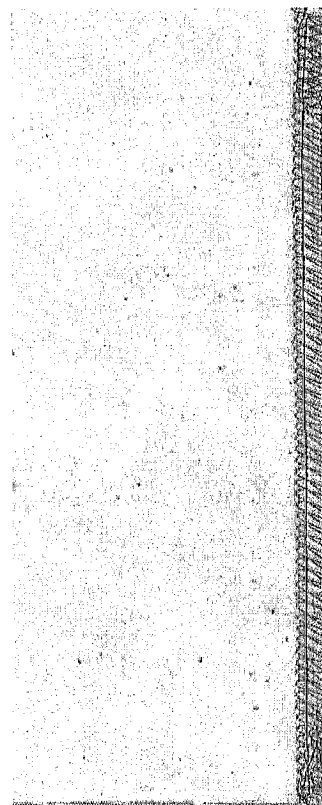
Slide the Stitch Selection lever towards the body of the serger.

Serge for about 1", over stitching the previous stitching. Guide the fabric so as not to cut the previous stitching. *Optional: Rotate upper knife up.*

Raise the toe of the presser foot and rotate the fabric 90° clockwise.

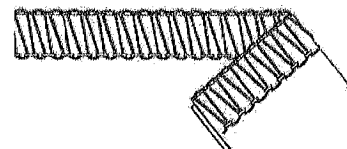
Serge off the edge of the fabric.

If the upper knife is up, rotate it down into the cutting position.



Suggested Settings

Upper Looper	3-5
Lower Looper	3-5
Left Needle	3-5
Right Needle	3-5
Stitch Length	2-5
Cutting Width	2-3
Differential Feed	N



Fabric: Firm fabric, 6" x 6"

Needle: 80/12 Universal

Thread: 3 cones of serger thread (blue, red, green)

Presser Foot: Standard

Stitch: 3-thread overlock

Using the small screwdriver and brush/needle insertion tool, remove the left needle. Snug the needle set screw after removing the needle.

Thread the serger for a *narrow* 3-thread overlock stitch using thread colors to match the color-coded threading path on the serger. Adjust all thread tension settings for a balanced stitch as indicated below.

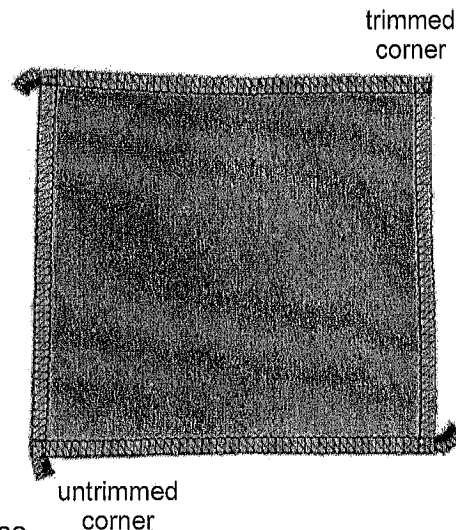
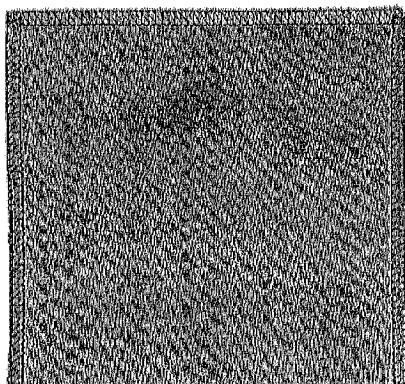
Outside Corner

OPTION I

- Serge one edge of the fabric, stitching off the end of the fabric. Trim the thread tail.
- Continue serging around the square, crossing over previous stitching.
- Use a seam sealant on the untrimmed thread tails (or use a tapestry needle to weave the thread tail back through the stitching). When the seam sealant is dry, trim the thread tails.

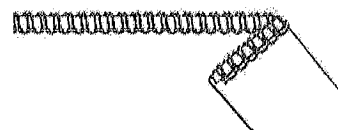
OPTION II

- Beginning at one corner, serge (trimming *very slightly* as you sew) to the end of the fabric. Take one stitch off the end of the fabric.
- Locate the Stitch Selection lever on the stitch plate and pull it toward you. This will free the thread from the stitch finger.
- Lift the presser foot and carefully pivot the fabric 90° counter clockwise.
- Return the Stitch Selection lever to normal (away from you).
- Place the needle one stitch into the fabric and lower the presser foot.
- Continue serging until you are one stitch off the next corner.
- Repeat the corner turning procedure and continue serging.



Suggested Settings

Upper Looper	3-5
Lower Looper	3-5
Left Needle	N/A
Right Needle	3-5
Stitch Length	2-5
Cutting Width	2-3
Differential Feed	N



Fabric: Medium weight fabric, 4" x 6"

Needle: 80/12 Universal

Thread: 3 cones of serger thread (blue, red, green)

Optional: Woolly Nylon thread for upper looper

Presser Foot: Standard

Stitch: 3-thread Rolled Hem

Using the small screwdriver and brush/needle insertion tool, remove the left needle. Snug the needle set screw after removing the needle.

Thread the serger for a *narrow* 3-thread overlock stitch using thread colors to match the color-coded threading path on the serger. Adjust all thread tension settings for a rolled edge as indicated below.

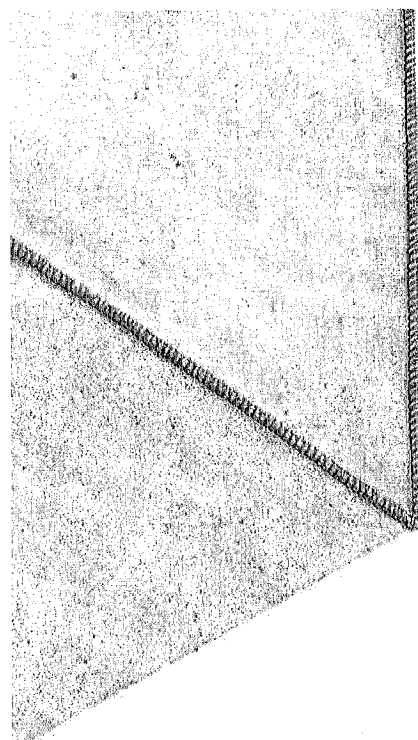
Pull the Stitch Selection Lever toward you.

Place the fabric under the presser foot and serge along one 6" edge.

Return stitch length and thread tension levers to normal.

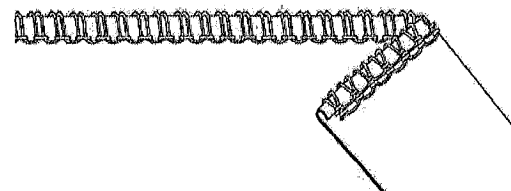
Return the Stitch Selection lever to normal sewing position.

Optional: Thread the serger for a 3-thread rolled edge (right needle) with Woolly Nylon in the upper looper. Because of the stretch of the Woolly Nylon thread, the tension of the looper may need to be loosened. Serge the edge opposite of the previously stitched rolled edge.



Suggested Settings

Upper Looper	3-5
Lower Looper	7-9
Left Needle	N/A
Right Needle	3-5
Stitch Length	1-1.5
Cutting Width	2-3
Differential Feed	N



Fabric: Medium weight cotton, 6" x 6"

Needle: 80/12 Universal

Thread: 3 cones of serger thread

Presser Foot: Blindstitch Foot

Stitch: 3-thread rolled edge

Set the serger for a 3-thread rolled edge stitch (right needle); adjust the settings as directed below.

Attach the Blindstitch Foot.

Pull the Stitch Selection lever toward you.

Raise the upper knife and lock it in the "up" position. You will not cut fabric with this technique.

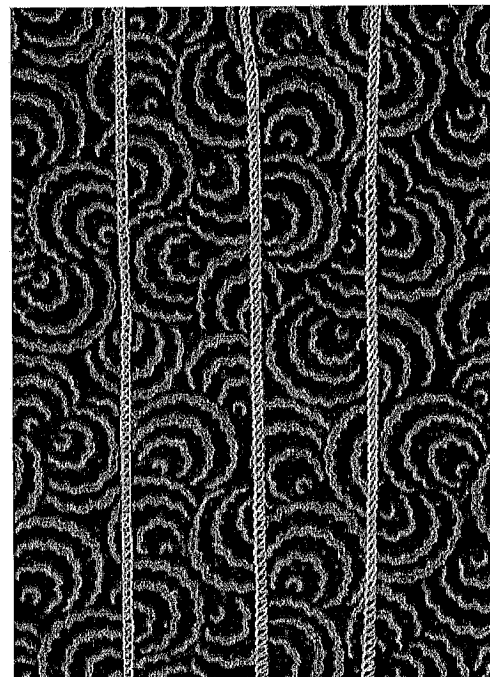
Move the fabric guide just to the left of the knife line on the stitch plate.

Mark three lines 1" apart across the fabric.

Fold the fabric *wrong sides together* along one marked line and place the fabric under the presser foot with the fold against the guide.

Serge the tuck; repeat for the two remaining marked lines.

Return the rolled hem lever to the normal serging position.



Suggested Settings

Upper Looper	3-5
Lower Looper	7-9
Left Needle	N/A
Right Needle	3-5
Stitch Length	1-1.75
Cutting Width	2-3
Differential Feed	N



Three-Thread Narrow Seam

Fabric batiste, 5" x 6"
Needle 80/12 Universal
Thread 3 cones serger thread
Presser Foot standard
Stitch 3-thread narrow seam

Notes

Following the diagrams in your owner's manual, thread the serger for a 3-thread narrow seam (right needle). Adjust settings as indicated.

Adjust cutting width to 1.5mm.

Adjust stitch length to 1.75mm (normal).

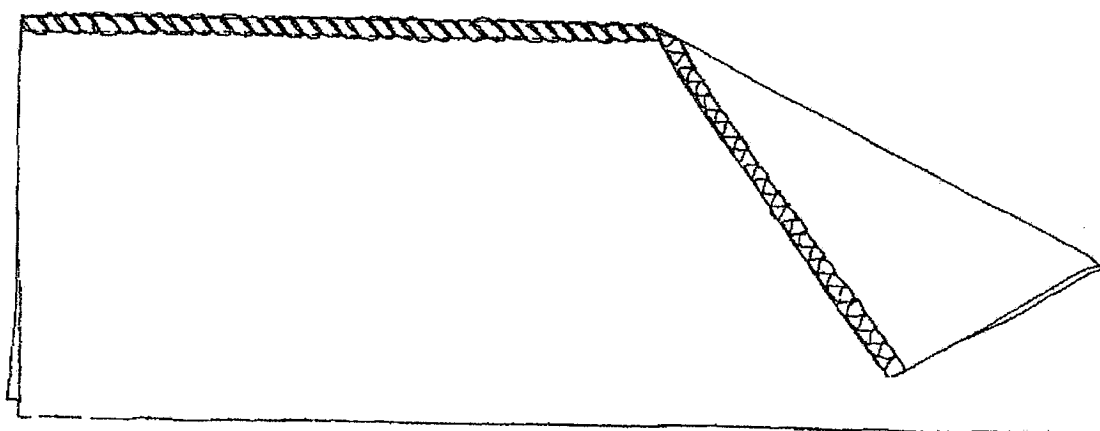
Pull the Stitch Selection lever toward you (out from the machine).

Fold the fabric in half to 2½" x 6".

Serge along the folded edge of the fabric.

Trim and mount the sample.

Three-Thread Narrow Seam Sample



Balanced 3-Thread Narrow Seam

Upper Looper 4-6
Lower Looper 4-6
Left Needle n/a
Right Needle 3-5

Cutting Width 1.5
Stitch Length 1.7mm
Differential Feed N
Stitch Selection Lever ▽

Turning Tubes

Fabric tricot, 2" x 6"
Needle 75/11 Stretch or Ballpoint
Thread 3 cones serger thread
Presser Foot standard
Stitch narrow 3-thread overlock

Set the serger for a narrow 3-thread overlock stitch (right needle). Adjust settings as indicated for a balanced stitch.

Adjust stitch length to 1.5mm.

Serge a thread chain several inches longer than the fabric.

Fold the fabric, right sides together, to 1" x 6" encasing the thread chain against the fold.

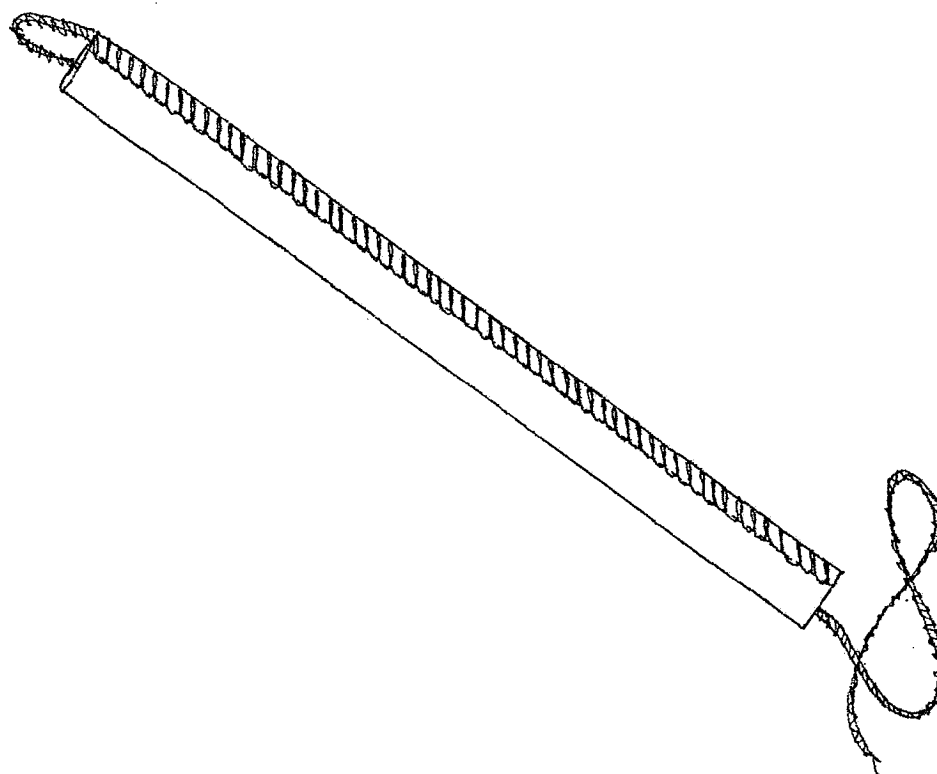
With the folded edge aligned with the left edge of the presser foot, serge the tube. Be careful not to catch the thread chain in the stitching.

After stitching the tube, gently pull on the thread chain and turn the tube right side out.

Mount the sample.

Notes

Turning Tubes Sample



Balanced 3-Thread Overlock - Narrow

Upper Looper 4-6
Lower Looper 4-6
Left Needle n/a
Right Needle 3-5

Cutting Width 2-3
Stitch Length 1.5mm
Differential Feed N
Stitch Selection Lever ▲